



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-6148; Directorate Identifier 2015-NM-154-AD; Amendment 39-18660; AD 2016-19-11]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-400 series airplanes. This AD was prompted by a malfunctioning No. 2 engine intake heater with corrosion on the thermostats and the fuselage skin where the thermostats made contact with the aircraft fuselage skin. This AD requires a general visual inspection for corrosion of the thermostats' mounting surfaces and fuselage skin surface, corrective actions if necessary, and relocating the existing thermostats. We are issuing this AD to prevent corrosion within the thermostats that might cause the switch mechanism to seize in the open position and prevent the activation of the associated engine air intake heater. An inactive engine air intake heater could lead to an engine failure.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone: 416-375-4000; fax: 416-375-4539; email: [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet: <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6148.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6148; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Assata Dessaline, Aerospace Engineer, Avionics and Services Branch, ANE-172, FAA, New York Aircraft

Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7301; fax 516-794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc. Model DHC-8-400 series airplanes. The NPRM published in the Federal Register on May 2, 2016 (81 FR 26176) (“the NPRM”).

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2015-24, dated August 24, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc. Model DHC-8-400 series airplanes. The MCAI states:

A malfunctioning Engine Air Intake Heater has been discovered with corrosion on the thermostats and the aeroplane skin where the thermostats are installed. The two thermostats are installed directly under the flight compartment floor along the aeroplane centre line where moisture accumulation and/or migration may occur, which can cause corrosion of the thermostats. Corrosion within the thermostats may seize the switch mechanism open, preventing the activation of the associated Engine Air Intake Heater. Failure of the Engine Air Intake Heater to activate may pose a safety risk to the aeroplane in icing conditions.

Bombardier has issued Service Bulletin (SB) 84-30-10 to inspect, replace if required and relocate the thermostat assembly to rectify this problem. [An inactive engine air intake heater could lead to an engine failure.]

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6148.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

### **Related Service Information under 1 CFR part 51**

Bombardier, Inc. has issued Bombardier Service Bulletin 84-30-10, Revision E, dated October 10, 2014. The service information describes procedures for a general visual inspection for corrosion of the thermostats' mounting surfaces and fuselage skin surface, corrective actions, and relocating the existing thermostats from a lower position on the aircraft skin at X 54.00 between stringers 31P and 32P (next to the centerline) to a higher position at X 54.00 between stringers 26P and 27P. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Costs of Compliance**

We estimate that this AD affects 76 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

<b>Estimated costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Modification	12 work-hours X \$85 per hour = \$1,020	N/A	\$1,020	\$77,520

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2016-19-11 Bombardier, Inc.:** Amendment 39-18660; Docket No. FAA-2016-6148; Directorate Identifier 2015-NM-154-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001 through 4184 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 30, Ice and rain protection.

**(e) Reason**

This AD was prompted by a malfunctioning No. 2 engine intake heater with corrosion on the thermostats and the fuselage skin where the thermostats made contact with the aircraft fuselage skin. We are issuing this AD to prevent corrosion within the thermostats that may cause the switch mechanism to seize in the open position and prevent the activation of the associated engine air intake heater. An inactive engine air intake heater could lead to an engine failure.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection of the Thermostats and Replacement**

Within 2,000 flight hours or 12 months, whichever occurs first after the effective date of this AD, do a general visual inspection of the thermostats' exterior for any signs of corrosion, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-30-10, Revision E, dated October 10, 2014. If any thermostat is corroded, replace the thermostat before further flight, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-30-10, Revision E, dated October 10, 2014.

**(h) Inspection of the Fuselage Skin Surface and Corrective Action**

Within 2,000 flight hours or 12 months, whichever occurs first after the effective date of this AD, do a general visual inspection of the fuselage skin surface for skin corrosion, and modify the engine air intake heater thermostat installation, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-30-10, Revision E, dated October 10, 2014.

(1) If the skin corrosion is 0.001 inch deep or less, before further flight remove the corrosion and treat bare metal, in accordance with Accomplishment Instructions of Bombardier Service Bulletin 84-30-10, Revision E, dated October 10, 2014.

(2) If the skin corrosion is greater than 0.001 inch deep, before further flight, repair using a method approved by the Manager, New York Aircraft Certification Office



(ACO), ANE-170, Transport Airplane Directorate, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO).

**(i) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using the service information identified in paragraphs (i)(1) through (i)(5) of this AD.

(1) Bombardier Service Bulletin 84-30-10, dated September 7, 2007, provided that the thermostat location label is replaced, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-30-10, Revision E, dated October 10, 2014, within the compliance times specified in paragraph (g) of this AD.

(2) Bombardier Service Bulletin 84-30-10, Revision A, dated April 7, 2008.

(3) Bombardier Service Bulletin 84-30-10, Revision B, dated January 20, 2010.

(4) Bombardier Service Bulletin 84-30-10, Revision C, dated July 14, 2011.

(5) Bombardier Service Bulletin 84-30-10, Revision D, dated December 20, 2011.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York ACO, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue,

Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, Engine and Propeller Directorate, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

**(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2015-24, dated August 24, 2015, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6148.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 84-30-10, Revision E, dated October 10, 2014.

(ii) Reserved.

(3) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone: 416-375-4000; fax: 416-375-4539; email: [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet: <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on September 12, 2016.

Michael Kaszycki,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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